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JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

Vol. 5 July, 1903 No. 55

CHRYSANTHEMUM LEUCANTHEMUM AND THE AMERICAN WHITE WEED.

M. L. Fernald.

No plant in the eastern United States and Canada, it is safe to say, is more familiarly known than the White Weed, Marguerite, or Ox-eye Daisy, the *Chrysanthemum Leucanthemum* of our floras. So abundant is the plant in all settled regions that, like many others of our commonest plants, it is very generally ignored by the botanical collector. From late May to August the plant whitens with its showy heads millions of acres of field and meadow, and in the trail of the explorer it is among the first field-plants to make its appearance. Its closest botanical affinity is with a large group of Old World species, and it was apparently not noted in New England as a wild plant by Josselyn in the 17th century, though in 1785 Manasseh Cutler recorded it from about Boston "in fields and pastures .... very injurious to grass land."[1] These facts together with the tendency of the plant during more than a century to follow closely the path of the white man in America have led to the natural conclusion that our White Daisy was brought to us within historic time from Europe; and, as it strongly resembles the Old World *Chrysanthemum Leucanthemum*, the American plant has been universally accepted as identical with that European species.

The common American plant scarcely needs special description, yet it is important to note that, as it occurs in the fields and clearings of New England and as represented in the Gray Herbarium from many stations ranging from Nova Scotia to the Rocky Mountains, the Gulf of Mexico and southern California, the long-petioled obovate

[1] Mem. Am. Acad. i. 483.

basal leaves are coarsely and unequally toothed or even cleft, the slightly broadened bases usually fimbriate; the lower cauline leaves are oblanceolate, shorter-petioled, with irregular coarse teeth and lacerate broadened bases; the middle and upper cauline are narrowly oblong or narrowly oblanceolate, with irregular teeth, and with deeply lacerate broadened bases, and the very uppermost are linear or almost filiform and greatly reduced in length. With slight variation in the degree of toothing, practically all the American material exhibits these general tendencies of the foliage, though, as would be expected, the plants vary extremely in size and development according to the nature of the soil in which they have grown.

In July, 1902, however, while visiting the shores of the Baie des Chaleurs in the County of Bonaventure, Quebec, Mr. Emile F. Williams and the writer noticed that the Daisy of that district had leaves of quite different outline from those with which we were familiar in New England. The long-petioled spatulate-obovate basal leaves were closely and almost regularly crenate, the petioles with slightly broadened rarely fimbriate bases; the lower cauline shorter-petioled broadly spatulate leaves had regularly crenate or dentate blades, entire broad petiolar portions and somewhat coarsely toothed bases, the middle and upper cauline were oblong or broadly oblanceolate, with coarse subascending teeth much shorter than in the New England plant.

A study of this chrysanthemum from the Bonaventure region shows it to be quite identical with the European material in the Gray Herbarium passed by Nees von Esenbeck, Schultz Bipontinus, Klatt, and other eminent European students of the Compositae as typical *Chrysanthemum Leucanthemum*, L. (*Leucanthemum vulgare*, Lam., *Tanacetum Leucanthemum*, Schz. Bip.). The specimens further match such representative plates of the European *Chrysanthemum Leucanthemum* as those of Reichenbach (Icones Florae Germanicae, xvi. t. 97, fig. 1) and Thomé (Flora von Deutschland, iv. t. 584). This broad-leaved plant, the common *Chrysanthemum Leucanthemum* of Europe, is apparently little known in America. Besides the plant collected in Bonaventure, Quebec, the only American material seen by the writer is an uncharacteristic sheet from St. John's, Newfoundland, and two individuals which have recently appeared in a lawn on the estate of Oakes Ames, at North Easton, Massachusetts.

In attempting to identify the plant which abounds in fields so gen-

erally through the eastern United States and southern Canada much difficulty has been encountered. Careful search through European literature has shown that *Chrysanthemum Leucanthemum* is there regarded as a species very variable in its foliage, but in only one flora has the form so generally established in America been clearly defined. Lamarck & De Candolle in their Flore Française divided *C. Leucanthemum* into six varieties; and of these var. "γ, *foliis semi-pinnatifidis*" with the further note that "la variété γ a les feuilles toutes découpées et presque pinnatifides,"[1] seems to be the plant so generally established in America. In the Gray Herbarium two French specimens, one cultivated in 1832 in the Luxembourg Garden, the other from the fields of Arenthon, Haute-Savoie, labeled "V. à feuilles pinnatifides," are quite like the common American plant; but these, as indicated by their labels, were collected in France as noteworthy variations. An old English specimen, collected in 1838 by John Ball in Westmoreland, departs considerably from the typical form of *C. Leucanthemum* as recognized by Nees, Schultz, Klatt, Blytt, and others, as does the plate in Sowerby's English Botany (ix. t. 601) showing that in England as well as France an extreme form very like the American tendency of the plant occurs.

In order further to verify the conclusions to which the study of these plants was leading, the writer sent specimens from Vermont of the characteristic American form and from New Carlisle, Quebec, of the Baie des Chaleurs plant, to Dr. Max Gürke, Custodian of the Royal Botanical Museum at Berlin, whose continuation of Richter's Plantae Europeae is setting so high a standard of scholarship in the preparation of botanical check-lists. In response to the letter accompanying these specimens, Dr. Gürke says under date of May 25, 1903:

"Chrysanthemum Leucanthemum ist in Mitteleuropa ausserordentlich variabel in Bezug auf die Blattform, und viele Autoren erwähnen dies auch in ihren Beschreibungen. So sagt, um nur ein Beispiel anzuführen, *Döll* in seiner Flora von Baden p. 920: 'Untere Blätter gestielt, verkehrt-eiförmig, kerbig-gezähnt; die stengelständigen sitzend, halb-stengelumfassend, länglich-lineal, gesägt. Variirt mit eingeschnittenen, selbst fast fiederspaltigen Blättern, mit fast ebensträussigem Blütenstand und mit einem durch stärkere Behaarung graulich-weissem Stengel.'

"Soweit ich aus der Litteratur ersehen habe, führt aber kein Autor Varietäten in Bezug auf die Blattform mit *besonderem Namen* an, und

[1] Lam. & DC. Fl. Fr. iv. 178 (1805).

ich habe mich auch an dem im Berliner Herbarium aufbewahrten Material überzeugt, dass es schwer sein würde, aus der langen Reihe von Blattformen, deren Endglieder die von Ihnen gesandten zwei Exemplare darstellen, bestimmte Typen herauszugreifen.

"Es scheint, als ob in der Verbreitung der Formen ein Unterschied zwischen Amerika und Europa vorhanden ist. In Mitteleuropa ist entschieden die Form mit spatelförmigen oder länglich-lanzettlichen, gesägten Blättern, also die Form, welche Sie mir von Quebec gesandt haben, entschieden bei weitem *häufiger*, und kann bei uns wohl als Typus der Art betrachtet werden, während die Form mit schmäleren, eingeschnittenen oder fiederspaltigen Blättern, d. h. also die Form, welche gleich ist der Greenman'schen Pflanze von Vermont, *seltener* ist. Eine gesonderte geographische Verbreitung dieser beiden extremen Formen habe ich aus dem mir vorliegenden Material nicht ersehen können."

Thus, from these observations of Dr. Gürke it appears, as had already seemed probable from the material in the Gray Herbarium, that the extreme form of *Chrysanthemum Leucanthemum* found on the Baie des Chaleurs is the abundant form in central Europe and may be considered the type of the species; while the form ordinarily abundant in America is rare in Europe, where, however, it does not differ in geographic range from the typical plant, and though noted by various authors has received no distinctive name. In America, on the other hand, the variety with narrower more deeply and sharply toothed leaves is so widely distributed and has so uniformly held its distinctive features that it seems worthy special recognition. The two extremes of the plant, whose essential differences of foliage are well brought out in the accompanying drawings prepared by Mr. F. Schuyler Mathews, are quickly distinguished as follows.

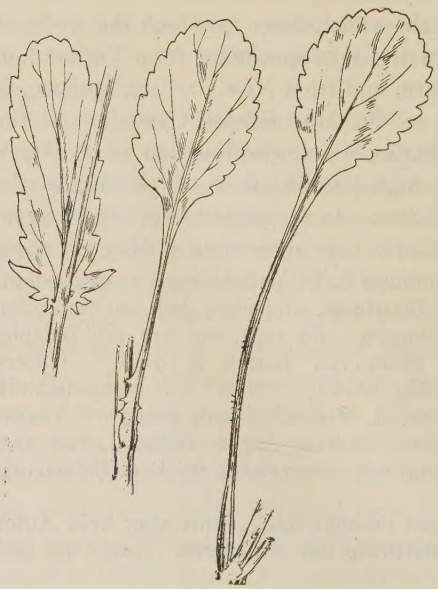

Fig. 1.

Chrysanthemum Leucanthemum, L. (Fig. 1.) Basal leaves spatulate-obovate, on slender elongate petioles, the blades crenate-dentate, the slightly broadened petiole-bases rarely fimbriate; lower cauline leaves on shorter broader petioles, with slightly pinnatifid or laciniate bases; middle and upper leaves oblong or broadly oblanceolate, coarsely and regularly short-crenate or -dentate above, with somewhat larger teeth at base.—Common in Europe. In America, established in fields, Bonaventure Co., Quebec, and at St. John's, Newfoundland (*Robinson & Schrenk*); locally as a lawn-weed, North Easton, Massachusetts, and to be expected elsewhere.

Var. **subpinnatifidum**. (Fig. 2.) Basal leaves coarsely and irregularly toothed or lobed, often with the petioles fimbriate at base; lower cauline oblanceolate or narrowly spatulate, subpinnatifid, often even along the petioles, with sharp or bluntish simple or serrate irregular teeth, and with lacerate bases; middle and upper cauline narrowly oblong or narrowly oblanceolate, similarly subpinnatifid.—*C. Leucanthemum*, γ. *Foliis semipinnatifidis*, Lam. & DC. Fl. Fr. iv. 178 (1805).—Abundant in fields and meadows in eastern United States and Canada, and locally westward to the Pacific, apparently introduced from Europe, where it is rare. Represented by very many specimens, among them the following numbered ones from America: Nova Scotia, Yarmouth, June, 1901 (*Howe & Lang*, no. 94); New Hampshire, Jaffrey, July 4, 1897 (*Robinson*, no. 123); Vermont, Manchester, June 24, 1898 (*M. A. Day*, no. 97); Massachusetts, Nantucket, May 29, 1900 (*M. A. Day*, no. 112); Connecticut, Southington, June 10, 1898 (*L. Andrews*, no. 23); Utah, Wahsatch Mts., Aug. 14, 1879 (*Jones*, no. 1266); California, Sta. Cruz, 1860–62 (*Brewer*, no. 814): and from France, Jardin du Luxembourg, June, 1832 (Herb. *J. Gay*); Arenthon, Haute-Savoie, May, 1862 (Herb. *Joad*).

Fig. 2.

Gray Herbarium.

RECENTLY RECOGNIZED SPECIES OF CRATAEGUS IN EASTERN CANADA AND NEW ENGLAND,— V.

C. S. Sargent.

§ Tomentosae

Anthers pink or rose color.

* Stamens 10 or less.

Crataegus fertilis, n. sp. Leaves oval to obovate, acuminate, gradually narrowed from near the middle and concave-cuneate at the entire base, sharply doubly serrate above, with straight teeth tipped with minute glands, and slightly divided above the middle into numerous narrow acuminate lobes; nearly fully grown when the flowers open and then membranaceous, sparingly villose, dark yellow-green above, pale below; at maturity thin but firm in texture, glabrous, dark green and lustrous on the upper surface, pale yellow-green on the lower surface, 7–9 cm. long, 5–6 cm. wide, with slender yellow midribs and 5–7 pairs of primary veins deeply impressed above; petioles slender, grooved, more or less broadly wing-margined often nearly to the middle by the decurrent base of the leaf blades, 1.5–2.5 cm. in length; stipules linear, acuminate, minute, caducous. Flowers about 1.6 cm. in diameter on long slender pedicels, in broad thin-branched many-flowered compound villose corymbs; bracts and bractlets linear, glandular, small, mostly deciduous before the flowers open; calyx-tube broadly obconic, villose at the base, glabrous above, the lobes broad, acuminate, coarsely glandular-serrate, villose on the inner surface, reflexed after anthesis; stamens 8–13, usually 10; anthers rose color; styles 2 or 3. Fruit on stout slightly villose pedicels, in wide many-fruited slightly drooping clusters, subglobose, short-oblong or rarely ovate, dark red, very lustrous, marked by few small pale dots, about 1 cm. long; calyx prominent with a broad deep cavity and enlarged coarsely serrate lobes villose on the upper side, erect and incurved, mostly persistent; flesh yellow, thick and succulent; nutlets 2 or 3, about 7 mm. in length, thick, full and rounded at the ends, ridged on the back, with a broad deeply grooved ridge, the ventral cavities broad and deep.

A shrub with numerous stems 3 or 4 m. in height and slender slightly zigzag branchlets marked by few large pale lenticels, orange-green when they first appear, soon becoming chestnut-brown and lustrous, darker during their second year and ultimately ashy gray, and armed with stout nearly straight bright red-brown spines 3.5–8.5 cm. in length. Flowers early in June. Fruit ripens about the 20th of September.

MAINE: middle Penobscot valley, river banks in rich alluvial soil, Orono, *M. L. Fernald*, May, June and September 1901.

To be distinguished from the closely related *Crataegus succulenta*, Link, by its thinner leaves, larger flowers, fewer stamens, erect calyx-lobes of the fruit, and usually stouter spines.

Crataegus dumicola, n. sp. Leaves oval to obovate, rounded and short-pointed or acute at the apex, concave-cuneate or rounded at the entire base, coarsely doubly serrate above, with glandular teeth, and slightly divided into numerous small acuminate lateral lobes; tinged with red and coated above with pale hairs as they unfold, more than half grown when the flowers open and then thin, dull yellow-green and sparingly villose on the upper surface, pale and glabrous on the lower surface; at maturity thin but firm in texture, dark yellow-green, lustrous, and scabrate above, pale below, 6–7 cm. long, 4–4.5 cm. wide, with slender yellow midribs and 4 or 5 pairs of thin primary veins arching obliquely to the points of the lobes; petioles stout, wing-margined often to the middle, villose at first, glabrous in the autumn, 9–14 mm. in length; stipules linear, acuminate, sometimes falcate, glandular, small, caducous. Flowers about 1.5 cm. in diameter on long slender slightly villose pedicels, in broad many-flowered thin-branched usually glabrous compound corymbs; bracts and bractlets linear, slightly glandular, small, mostly deciduous before the flowers open; calyx-tube broadly obconic, glabrous, the lobes abruptly narrowed from the base, slender, acuminate, finely glandular-serrate, villose on the inner surface, reflexed after anthesis; stamens 7–10, usually 8; anthers pink; styles 3. Fruit on rigid glabrous pedicels, in erect few-fruited clusters, subglobose, dark red marked by many small pale dots, about 1 cm. in diameter; calyx small, sessile, with a narrow shallow cavity and spreading lobes generally deciduous from the ripe fruit; flesh very thin and dry; nutlets 3, about 8 mm. in length, broad, rounded at the ends, ridged on the back, with a broad rounded ridge, the ventral cavities shallow, irregular, often obscure.

A shrub 2–3 m. in height with many small nearly erect branches, and stout nearly straight branchlets marked by few oblong pale lenticels, dark orange-green when they appear, orange-red and lustrous during the first season, becoming light red-brown the following year and ultimately ashy gray, and armed with stout nearly straight bright chestnut-brown shining spines 3.5–7 cm. long. Flowers during the first week of June. Fruit ripens about the middle of September and mostly falls before the end of the month.

MAINE: river thickets, Fort Fairfield, at the mouth of the Aroostook, *M. L. Fernald*, June and September 1901.

Crataegus rhombifolia, n. sp. Leaves broadly rhombic to obovate or rarely ovate on leading shoots, acute or acuminate, gradu-

ally narrowed to the entire base, coarsely and doubly serrate above, with straight glandular teeth, and slightly divided above the middle into many narrow acuminate lobes; nearly fully grown when the flowers open and then membranaceous, roughened above by short rigid pale hairs and slightly villose below along the slender yellow midribs and primary veins; at maturity thin but firm in texture, dull dark green and scabrate on the upper surface, pale yellow-green and still slightly villose on the lower surface, 6–7 cm. long, about 5 cm. wide; petioles stout, more or less wing-margined above, slightly villose, about 1.5 cm. in length. Flowers 1.2 cm. in diameter on long slender villose pedicels, in compact thin-branched many-flowered hairy compound corymbs; bracts and bractlets linear, acuminate, glandular, mostly caducous before the flowers open; calyx-tube narrowly obconic, villose at the base, glabrous above, the lobes broad, acuminate, very coarsely glandular-serrate often only above the middle, villose on the inner surface, reflexed after anthesis; stamens 10; anthers purple; styles 2 or 3. Fruit on erect rigid slightly villose pedicels, in few-fruited clusters, subglobose, often hairy at the base, bright clear red, lustrous, 8 or 9 mm. in diameter; calyx enlarged, with a wide shallow cavity and broad coarsely serrate spreading and closely appressed lobes densely coated above with long white hairs; flesh thin, yellow, dry and mealy; nutlets 3, 7 mm. long, full and rounded at the ends, thick, slightly ridged on the back, with a broad low ridge, the ventral cavities short, deep and narrow.

A shrub 1–2 m. in height with slender nearly straight branchlets bright orange-colored when they first appear, becoming bright chestnut-brown and lustrous during their first season and light red-brown the following year, and armed with many stout straight chestnut-brown shining spines 2.5–3 cm. in diameter. Flowers during the first week of June. Fruit brightly colored and full grown by the middle of August, ripening a month later.

Connecticut: rare; sandy terrace near Trading Cove, Norwich, *C. B. Graves*, August 23, 1900, June 4, 1901; Southington, *C. H. Bissell*, June and September 1901.

Crataegus Robinsoni, n. sp. Leaves obovate, acute or acuminate, gradually narrowed from above the middle and cuneate at the entire base, finely and often doubly serrate above, with straight or incurved teeth tipped with bright red glands, and slightly divided into 3 or 4 pairs of short acute lateral lobes; when they unfold conspicuously plicate, light yellow-green and covered above with short shining white hairs and glabrous below, about one-third grown when the flowers open, and at maturity thin and firm in texture, dark yellow-green and lustrous on the upper surface, paler on the lower surface, about 4.5 cm. long, 3–4 cm. wide, with very slender midribs and thin primary veins extending obliquely to the points of the lobes; petioles

slender, grooved, more or less wing-margined toward the apex, glandular with minute dark red glands, 1.5–1.8 cm. in length. Flowers 8–10 mm. in diameter on short slender pedicels, in compact mostly 6–7-flowered thin-branched sparingly villose compound corymbs; bracts and bractlet linear, acuminate, bright red, mostly deciduous before the opening of the flowers; calyx-tube narrowly obconic, light green, the lobes narrow, red at the acuminate apex, tipped with bright red glands, finely serrate or nearly entire, pubescent on the inner face, reflexed after anthesis; stamens 5–7, usually 5; anthers large, magenta; style 2–4, usually 3. Fruit on bright red elongated glabrous pedicels in drooping clusters, oblong to slightly obovate, full and rounded at the apex, gradually narrowed to the base, bright scarlet, lustrous, marked by occasional large dark dots, about 1 cm. long, 7–8 mm. wide; calyx prominent, with a short tube, a broad deep cavity and reflexed and closely appressed lobes pubescent on the upper surface, usually persistent; nutlets generally 3, thin, acute at the ends, prominently ridged on the back with a broad often grooved ridge, the ventral pits broad but shallow, about 6 mm. in length.

A shrub or small tree sometimes 3 m. in height with a slender stem occasionally 1 dm. in diameter, covered with ashy gray bark scaly toward the base, slender erect branches and thin nearly straight branchlets marked by a few large pale lenticels, light orange-green when they first appear, bright red or red-brown and lustrous during their first and dark gray-brown during their second year, and unarmed or sparingly armed with short stout light chestnut-brown shining spines. Flowers during the first week of June. Fruit ripens early in October.

Nova Scotia: Lock Broom, near Pictou, *Isabelle McCabe*, June and October 1902; Rustico, Pictou County, *C. B. Robinson* and *Florence Scott*, June 1902.

One of the most distinct of all the species belonging to this difficult group and well characterized by its small thin nearly glabrous leaves with very slender midribs and veins, small flowers with few stamens, oblong or obovate fruits, and by the unusually shallow cavity on the ventral faces of the nutlets. Received with numerous other forms of northern Nova Scotia from Mr C. B. Robinson, Science Master of the Pictou Academy for whom it is named.

Crataegus aquilonaris, n. sp. Leaves ovate to oval, acuminate, broadly cuneate or rounded at the entire often oblique base, sharply and often doubly glandular-serrate, and slightly divided into numerous short broad acuminate lobes; nearly fully grown when the flowers open and then light yellow-green and covered with short lustrous

white hairs on the upper surface and pale and glabrous on the lower surface; at maturity membranaceous, dark yellow-green and scabrate above, pale below, 5–6 cm. long, 3.5–4 cm. wide, with thin yellow midribs and primary veins; petioles slender, more or less wing-margined at the apex, grooved, glandular at first, with minute deciduous glands, often rose-colored in the autumn, 1.5–2 cm. in length; stipules linear, acuminate, often falcate, glandular, caducous; on vigorous shoots leaves long-pointed, coarsely serrate, subcoriaceous, often 8 cm. long and 6 cm. wide, with thick rose-colored midribs and stout petioles broadly winged to below the middle, and lunate coarsely serrate persistent stipules. Flowers on short pedicels in slightly villose many-flowered compound corymbs, with long 3-flowered peduncles from the axils of the two upper leaves; calyx-tube narrow, elongated, slightly villose below the middle, the lobes long, slender, acuminate, tipped with bright red glands, finely glandular-serrate, villose on the inner surface, reflexed after anthesis; stamens 5–10, usually 5; anthers purple; styles 2 or 3. Fruit on slender glabrous or slightly villose pedicels, in few-fruited drooping clusters, oblong, gradually narrowed to the rounded ends, dull greenish red, not fully ripe the middle of September, 1 cm. long, about 8 mm. wide; calyx small, with a narrow shallow cavity and spreading closely appressed nearly entire lobes, villose above the middle and dark red toward the base on the upper side; flesh greenish yellow; nutlets 2 or 3, about 8 mm. long, full and rounded at the ends, ridged on the back, with a very broad high slightly grooved ridge, the ventral cavities broad but shallow, oblique, widening from the base of the nutlet upward to its margins.

A shrub 2 or 3 m. in height with upright stems and stout nearly straight branchlets marked by small pale lenticels, light orange-green when they first appear, orange or reddish brown and lustrous during their first season and dull gray-brown the following year, and armed with stout slightly curved or straight bright chestnut-brown shining spines 2–3.5 cm. in length. Flowers from the 10th to the middle of June. Fruit probably ripens toward the end of September.

Province of Ontario: Nipissing; not common and the only species reported, *Milton Jack*, June 15 and September 18, 1902.

Very distinct in the shape and thinness of the leaves, in the oblong fruits and in the short stout spines.

* * Stamens 20.

Crataegus membranacea, n. sp. Leaves elliptical to obovate, or rarely ovate, acute or acuminate, cuneate or occasionally rounded at the entire often oblique base, coarsely doubly serrate above, with straight glandular teeth, and divided into 4 or 5 pairs of short acumi-

nate lateral lobes; more than half grown when the flowers open and then very thin, light yellow-green and roughened above by short rigid white hairs, pale and glabrous below with the exception of a few hairs along the base of the midribs; at maturity membranaceous, yellow-green, lustrous and scabrate on the upper surface, pale on the lower surface, 6–7.5 cm. long, 4–6 cm. wide, with slender midribs and 4 or 5 pairs of thin primary veins extending obliquely to the points of the lobes; petioles slender, grooved, mostly wing-margined to below the middle, sparingly glandular, with minute red deciduous glands, often rose-colored late in the season like the under side of the midribs, 1.2–1.6 cm. in length. Flowers 1.8–2 cm. in diameter on long slender pedicels, in broad many-flowered thin-branched slightly villose compound corymbs; bracts and bractlets acuminate, bright red, small, mostly deciduous before the flowers open; calyx-tube broadly obconic, glabrous, the lobes wide, acuminate, conspicuously glandular-serrate, villose on the inner face, reflexed after anthesis; stamens 20; anthers pale rose-color; styles 3–5, usually 3. Fruit on slender glabrous pedicels, in few-fruited spreading clusters, oblong, full and rounded at the ends, 1–1.1 cm. long, 9–10 mm. wide, crimson, lustrous, marked by few large pale dots; calyx prominent with a broad deep cavity and spreading closely appressed coarsely glandular-serrate lobes, villose and bright red at the base on the upper side; flesh yellow, thick and succulent; nutlets usually 3, about 7 mm. in length, rounded at the ends, broad, ridged, the ventral cavities wide and deep.

A tall shrub, rarely arborescent in habit with a short stem 7 or 8 cm. in diameter, and slender nearly straight or slightly zigzag branchlets marked by small pale lenticels, glabrous and light orange-green when they first appear, light red-brown and lustrous during their first season, becoming dark gray-brown the following year and armed with slender nearly straight light chestnut-brown shining spines 2.5–4 cm. in length. Flowers at the very end of May. Fruit ripens the middle of September and soon falls.

Vermont: clay soil on lime stone ridges, Middlebury, *Ezra Brainerd*, September 1900, May and September 1901.

Well distinguished from the other species of this group with 20 stamens, by its very thin mostly elliptical leaves, larger flowers and early-ripening fruits with usually three nutlets.

Arnold Arboretum.

PRELIMINARY LISTS OF NEW ENGLAND PLANTS,— XII.[1]

B. L. Robinson.

[The sign + indicates that an herbarium specimen has been seen; the sign — that a printed record has been found.]

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
Eriocaulaceae.						
Eriocaulon septangulare, With.	+	+	+	+	+	+
Phytolaccaceae.						
Phytolacca decandra, L.	+	+	+	+	+	+
Aizoaceae.						
Mollugo verticillata, L.	+	+	+	+	+	+
Portulacaceae.						
Claytonia caroliniana, Michx.	+	+	+	+		+
" virginica, L.	—	—	+	—	+	+
Montia fontana, L.	+					
Portulaca oleracea, L.	+	+	+	+	+	+
Caryophyllaceae.						
Agrostemma Githago, L.	+	+	+	+	+	+
Arenaria groenlandica, Spreng.	+	+	+	—	+	+
" lateriflora, L.	+	+	+	+	+	+
" leptoclados, Guss.	+					
" macrophylla, Hook.			+			
" peploides, L.	+	+		+	+	+
" serpyllifolia, L.	—	+	+	+	+	+
" stricta, Michx.		+	+	+		+

[1] Printed in Rhodora as supplementary material.

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
Arenaria verna, L., var. hirta, Wats.			+			
Cerastium arvense, L.	+	+	+	+	+	+
" nutans, Raf.			+			+
" semidecandrum, L.						+
" viscosum, L.				—	+	—
" vulgatum, L.	+	+	+	+	+	+
Dianthus Armeria, L.	—		+	+	+	+
" barbatus, L.	+		+	+		+
" deltoides, L.	+	+	+	+		+
Gypsophila muralis, L.	+	+		+	+	+
Lychnis alba, Mill. (*L. vespertina*, Sibth.)	+		+	+	+	+
" chalcedonica, L.	+	+	+	+		+
" Coronaria, Desr.	—		+			+
" dioica, L. (*L. diurna*, Sibth.)	+	+	+	+	+	+
" Flos-cuculi, L.	+			+	+	+
Sagina decumbens, Torr. & Gray			+	+		+
" nodosa, Fenzl.	+					
" " var. pubescens, Koch	+			+		
" procumbens, L.	+	+	+	+	+	+
Saponaria officinalis, L.	+	+	+	+	+	+
" Vaccaria, L.	+		+	+	+	+
Silene acaulis L.		+				
" antirrhina, L.	+	+	+	+	+	+
" " var. divaricata, Robinson				+	+	
" Armeria, L.	+	+	+	+	+	+
" Cucubalus, Wibel	+	+	+	+	+	+
" dichotoma, Ehrh.	+	+		+		+
" gallica, L.	+			+		
" nivea, Muhl.	+					
" noctiflora, L.	+	—	+	+	+	+
" nutans, L.	+					
" pendula, L.	+					
" pennsylvanica, Michx.	—	—		+	+	+
" stellata, Ait.					+	+
Spergula arvensis, L.	+	+	+	+	+	+
Spergularia borealis, Robinson	+	+		+	+	
" rubra, J. & C. Presl	+	+	+	+	+	+
" salina, J. & C. Presl	+	+		+	+	+
Stellaria aquatica, Scop.				+		
" borealis, Bigel.	+	+	+	+	+	+
" graminea, L.	+	+	+	+	+	+
" Holostea, L.	+					
" humifusa, Rottb.	+					
" longifolia, Muhl.	+	+	+	+	+	+

	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
Stellaria longipes, Goldie	+	+	+	+		+
" media, Cyrill.	+	+	+	+	+	+
" uliginosa, Murr.	+	+	+	+		

Illecebraceae.	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
Anychia capillacea, DC.		+	+	+	+	+
" dichotoma, Michx.		—		+	—	+
Corrigiola littoralis, L.				+		
Paronychia argyrocoma, Nutt.	+	+		+		
Scleranthus annuus, L.	+	+		+	+	+

Sarraceniaceae.	Me.	N. H.	Vt.	Mass.	R. I.	Conn.
Sarracenia purpurea, L.	+	+	+	+	+	+

Notes on the above List.—A few apparently erroneous reports have been purposely omitted. Of those which are included several seem open to considerable doubt. Thus, I suspect that the plant reported as *Anychia dichotoma*, Michx. in New Hampshire and Rhode Island has been *A. capillacea*, DC., although there is a considerable likelihood that *A. dichotoma* will sooner or later be found in these two states.

A broad-leaved form of *Stellaria graminea*, L., the var. *lanceolata* of Fenzl, has been found at several stations in New England, but appears to be only a form or perhaps merely a luxuriant state of the typical plant.

Portulaca grandiflora, Hook. (*P. pilosa*, Dame & Collins, not L.) has been reported both from Massachusetts and Connecticut, but is too casual in its occurrence or too obviously a relic of cultivation to be regarded as a part of our flora.

Repeated efforts to verify reports of *Sagina apetala*, L., have led to the conclusion that that species does not occur in New England and that plants hitherto referred to it from this region belong to *S. decumbens*, Torr. & Gray, or to *S. procumbens*, L.

The sole basis for the report *Stellaria aquatica*, Scop. in New

England is a single but unmistakable specimen collected near the Boston & Albany Railway at Newtonville, Mass., July 28, 1881, by C. J. Sprague. It is very doubtful if this species has persisted in our flora.

Some further notes regarding the plants of this list will be published in the August number of RHODORA.

GRAY HERBARIUM.

HENRY GRISWOLD JESUP.— It is with deep regret that botanists will learn of the death at Hanover, New Hampshire, on June 15th, of Henry Griswold Jesup, for twenty-two years professor of botany at Dartmouth College and since 1899 emeritus. Professor Jesup was one of three noted botanists who graduated from Yale College in the class of 1847, the others being the late Sereno Watson, for many years curator of the Gray Herbarium, and Mr. John Donnell Smith of Baltimore, well known for his extensive and critical work upon the flora of Central America. Professor Jesup's botanical work was chiefly systematic and devoted to the local flora of the region about Amherst, Massachusetts, and later in the vicinity of Dartmouth College. His most important publication was his Catalogue of the Flowering Plants and Higher Cryptogams, both native and introduced, found within thirty miles of Hanover, New Hampshire; issued in 1891, after some preliminary publications upon the same subject.

In his teaching his gentle and kindly nature, combined with his obvious affection for his subject, has left for him a deep and lasting regard in the minds of his many students. Among those who enjoyed his instruction and who have since become known for their professional or amateur work in botany are Professor F. O. Grover of Oberlin College, Mr. W. W. Eggleston, an energetic collaborator on the recent and admirable Vermont catalogue, and Mr. H. E. Sargent.

Two plants, *Astragalus Robbinsii*, var. *Jesupi*, Eggleston & Sheldon, and *Crataegus Jesupi*, Sargent, have been named in Professor Jesup's honor. His herbarium has been permanently deposited at Dartmouth College, and is now in charge of his successor, Professor George R. Lyman.

A SECOND STATION FOR CYPERUS HOUGHTONI IN VERMONT.— While driving in Cholchester, Vermont, in October, 1901, at a place where the road passes through a piece of dry shifting sand, I noticed

a Cyperus which seemed different from the common species of this vicinity. It was past its prime, dead ripe in fact, and I was not able to name it to my satisfaction but called it provisionally *C. Schweinitzii*, Torr. This winter President Ezra Brainerd identified it as *C. Houghtoni*, Torr., a species which appears to have been found only once before in this state, namely at Fairlee Lake by Professor Jesup. I also collected it at Keeseville, New York, in September, 1900, which must likewise be a new station, as the range of the species in Britton and Brown's Illustrated Flora is Massachusetts to Minnesota, Kansas and Oregon. The two stations here recorded are almost opposite each other, the one on the eastern and the other on the western shore of Lake Champlain, and about the same distance back from the lake shore.— Nellie F. Flynn, Burlington, Vermont.

Clematis verticillaris in the Middlesex Fells. — On May 20, 1902, and again on May 13, 1903, I found in Middlesex Fells *Clematis verticillaris*, DC. growing on the ledges around Pine hill. This species is not mentioned in Dame and Collins' *Flora of Middlesex County*, nor in the catalogue of plants of the Middlesex Fells published by the Metropolitan Park Commission. It is growing over a space of fully 250 sq. ft. In 1902 when a specimen was shown to Dr. Dame he recalled having a single plant brought to him by a pupil when he was making his catalogue, but he could not find the species himself in the locality described and therefore did not put it into his list. The large number of plants now growing there seems to indicate that it has been established a long time, and the specimen he then had probably came from this place. Dr. Dame's remembrance of the locality described to him more than fifteen years ago agrees with the present place of growth. — Robert Dillingham Morss, West Medford, Massachusetts.

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